

Claims

1. A claw-pole rotor for an electrical machine, in particular a rotary current generator, having two pole wheels (26, 27), which each carry claw poles (28 and 29, respectively), which each originate in a plate region (50) and have a pole root (53), and on a circumference of the claw-pole rotor (20), claw poles (28, 29) of the pole wheels (26, 27) are located in alternation, and located between the claw poles or interstices (90), and a claw pole (28, 29) has a radially outward-oriented cylindrical-jacketlike surface (43), by which a pivot axis (65) is defined, and a chamfer (68) extends on the one hand in a circumferential direction and on the other in an edge direction of a claw pole (28 and 29, respectively), characterized in that the chamfer (68) has a center portion m in the edge direction that intersects a transition plane (59) which demarcates the pole root (53) and the freely projecting part of the claw pole (28 and 29, respectively), and the center portion m amounts to $8/10$ of the length, oriented in the edge direction, of the chamfer (68); and that the claw pole (28, 29) has a width B_k oriented in the circumferential direction, and a half width B_k on the cylindrical surface (43), in a plane of the claw pole (28, 29) that is vertical to the pivot axis (65), defines a point (P), and a tangent (T) can be inscribed into this point (P), and an angle of inclination α which has a magnitude of between 15° and 25° is enclosed between the tangent (T) and the chamfer (68) in the plane that is vertical to the pivot axis (65).
2. The claw-pole rotor as defined by claim 1, characterized in that the center portion m amounts to $1/3$ of the length (l) of the chamfer (68).
3. The claw-pole rotor as defined by claim 1 or 2, characterized in that the chamfer (68) has a center (m) in the edge direction that is located close to the transition plane (59) from the pole root (53) to the freely projecting part of the claw

10 pole (28 and 29, respectively).

4. The claw-pole rotor as defined by one of the foregoing claims, characterized in that the chamfer (68) extends up to 5 mm in the pivot axis direction (65) on the
5 freely projecting part of the claw pole (28 and 29, respectively).

15 5. The claw-pole rotor as defined by claim 4, characterized in that the chamfer (68) extends up to 2 mm in the pivot axis direction (65) on the freely projecting part of the claw pole (28 and 29, respectively).

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6. The claw-pole rotor as defined by one of the foregoing claims, characterized in that the chamfer (68) has a width (b_F) of between 4 mm and 6 mm.

15 7. The claw-pole rotor as defined by one of the foregoing claims, characterized in that the chamfer (68) has a length (l) of between 4 mm and 6 mm.

20 8. The claw-pole rotor as defined by one of the foregoing claims, characterized in that the chamfer (68) is a plane which is oriented parallel to the pivot axis direction (65) or parallel to the edge direction (73).

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9. The claw-pole rotor as defined by one of the foregoing claims, characterized in that between the chamfer (68) and the cylindrical-jacketlike surface (43) is a stepped transition (80).

25 10. The claw-pole rotor as defined by one of the foregoing claims, characterized in that the chamfer (68) is formed integrally in non-metal-cutting fashion, in particular being forged on.

11. A rotary current generator, in particular for motor vehicles, having an

annular-cylindrical stator iron (86) and having a claw-pole rotor (20) as defined by one of the foregoing claims, characterized in that the chamfers (68) project beneath the stator iron (86) in such a way that a portion of the chamfers (68) remains outside the stator iron (86).

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12. The rotary current generator as defined by claim 11, characterized in that the chamfers (68) project at least 1 mm beneath the stator iron (86).

13. The rotary current generator as defined by claim 11 or 12, characterized in
10 that the rotary current generator has a defined direction of rotation (D), in which
the claw-pole rotor (20) is rotated to generate current, and each claw pole (28, 29)
has one edge (73) that is oriented in the direction of rotation and one edge (70)
that is oriented counter to the direction of rotation, and the chamfer (68) is located
on the side of the claw pole (28, 29) that has the edge (73) that is oriented in the
15 direction of rotation (D).